43-57 (Canceled)

REMARKS

Claims 1-4, 6-15, 17-22, and 28-42 are pending in the present application. Claim 41, has been amended without prejudice and without acquiescence. Support for the amendment can be found in paragraph [0018] of the Specification. No new matter has been added.

The issues outstanding in this application are as follows:

- Claim 41 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

- Claims 1, 7-8, 12, 20-21, and 42 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS).

- Claims 1-4, 7-15, 17-21, and 28-31 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Johnston et al. (US Patent No. 5,703,057) in view of Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS).

- Claims 32-41 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Johnston et al. (US Patent No. 5,703,057) in view of Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS) and Weiner et al. (US Patent No. 6,348,449).

Applicants respectfully traverse the outstanding rejections, and Applicants respectfully request reconsideration and withdrawal thereof in light of the amendments and remarks contained herein.

I. Rejection under 35 U.S.C. § 112, second paragraph

Claim 41 is rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants respectfully traverse.

The Examiner states that the limitation in claim 41 of "different promoter polynucleotide sequences" has insufficient antecedent basis because it is dependent on claim 39 wherein only a first promoter polynucleotide sequence is recited and not multiple promoter polynucleotide sequences. In order to advance the prosecution of the present application, Applicants have amended claim 41 without prejudice or acquiescence. In light of the amendment, Applicants respectfully request withdrawal of the 35 U.S.C. § 112 rejection.

II. Rejection under 35 U.S.C. § 102(b)

Claims 1, 7-8, 12, 20-21, and 42 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS). The Examiner states that Ogris et al. teach that plasmid DNA complexed with transferrin-conjugated polyethylenimine (PEI) form large aggregates and that these large aggregates show high transfection efficiency. Furthermore, the Examiner states that Ogris et al. teach that these findings are useful for localized *in vivo* applications. Applicants traverse.

Anticipation of a claim is only established where "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed.Cir. 1987). In addition, "Claims must be read in view of the specification, of which they are a part." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir. 1995) (in banc), *aff'd*, 517 U.S. 370, 38 USPQ2d 1461 (1996).

Ogris et al. teach the use of plasmid DNA complexed with transferrin-conjugated polyethylenimine (PEI) for transfection of cultured cells. Thus, Ogris et al. clearly teach a system for DNA delivery via ligand-targeted receptor-mediated endocytosis wherein transferrin is the ligand which targets the aggregated protein-polycationic polymer conjugate to the transferrin cell surface receptor where it binds and is subsequently taken into the cell by receptor-mediated endocytosis. However, the present invention clearly teaches the opposite of Ogris et al. in that the aggregated protein is not a ligand targeted to a cell surface

receptor and, therefore, the aggregated protein-polycationic polymer conjugate is not a ligand-targeted receptor-mediated endocytic DNA delivery system. This distinction is indicated in paragraph [0078] of the Specification which states that the prior art depends on a strategy to "convey the DNA into the cells via a receptor-mediated endocytosis." Paragraph [0078] of the Specification further states, "[t]he present invention is different and one skilled in the art realizes that the combination of the polycation will help neutralize the negative charge of the nucleic acid allowing increased endocytic uptake and the aggregated protein will aid in the particulate formation allowing the DNA to be taken up by the endothelial cells in the capillary bed; thus eliminating the necessity of targeting a specific cell surface receptor."

In re Leuders, 111 F.3d 1569, 42 USPQ2d 1481 (Fed. Cir. 1997) states that although a feature absent in the prior art reference is not expressly set forth in the claims; it is clearly part of claims when read in view of the specification. Thus, the feature is implicit in the claims. Therefore, in light of the specific embodiments described in paragraph [0078] of the Specification, the present claims 1, 7-8, 12, 20-21, and 42 include the teaching that the aggregated protein of the present invention is not a ligand targeted to a cell surface receptor and, therefore, the aggregated protein-polycationic polymer conjugates are not part of a ligand-targeted receptor mediated endocytic DNA delivery system as taught in Orgis et al.

Therefore, because Ogris et al. do not teach the use of an aggregated protein-polycationic polymer conjugate that does not contain a ligand targeted to a cell surface receptor, Ogris et al. is precluded from anticipating the present claims. Thus, Applicants respectfully request withdrawal of the rejection.

III. Rejection under 35 U.S.C. § 103(a)

Claims 1-4, 7-15, 17-21, and 28-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnston et al. (US Patent No. 5,703,057) in view of Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS). Applicants respectfully traverse.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Johnston et al. teach expression vectors encoding antigens prepared from pathogenic viruses and the expression of such antigens in mammalian cells. However, Johnston et al. do not teach such vectors bound to an aggregated protein-polycationic polymer conjugate as a method of DNA delivery. Ogris et al. teach the use of plasmid DNA bound to ligand-conjugated PEI aggregates that are taken into the cell by receptor-mediated endocytosis. However, Ogris et al. do not teach the use of protein-polycationic polymer conjugates wherein the aggregated protein is not a ligand targeted to a cell surface receptor. Therefore, the teachings of Ogris et al. are opposite to those of claims 1-4, 7-15, 17-21, and 28-31 of the present invention. Thus, the combination of Ogris et al. and Johnston et al. does not teach or suggest all the claim limitations of the present invention. In light of the above arguments, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection.

IV. Rejection under 35 U.S.C. § 103(a)

Claims 32-41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnston et al. (US Patent No. 5,703,057) in view of Ogris et al. (Gene Therapy 5:1425-2433, 1998; IDS) and Weiner et al. (US Patent No. 6,348,449). Applicants respectfully traverse.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Johnston et al. teach expression vectors encoding antigens prepared from pathogenic viruses, and the expression of such antigens in mammalian cells. However, Johnston et al. do not teach such vectors bound to an aggregated protein-polycationic polymer conjugate as a method of DNA delivery. Ogris et al. teach the use of plasmid DNA bound to ligand-conjugated PEI aggregates that are taken into the cell by receptor-mediated endocytosis. However, Ogris et al. do not teach the use of protein-polycationic polymer conjugates wherein the aggregated protein is not a ligand targeted to a cell surface receptor. Weiner et al. teach genetic constructs that encode a target protein and further include genes which enhance the immune response, such as cytokines. However, Weiner et al. do not teach the use of protein-polycationic polymer conjugates wherein the aggregated protein is not a ligand targeted to a cell surface receptor. Thus, the combination of Johnston et al., Ogris et al., and Weiner et al. does not teach or suggest all the limitations of claims 32-41 in the present

invention. Therefore, in light of the above arguments, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2375, under Order No. HO-P01949US1 from which the undersigned is authorized to draw.

Dated: November 5, 2003

Respectfully submitted,

By _____

Melissa W. Acosta
Registration No.: 45,872
FULBRIGHT & JAWORSKI L.L.P.
1301 McKinney, Suite 5100
Houston, Texas 77010-3095
(713) 651-5407
(713) 651-5246 (Fax)